



PRACTICAL WILDLIFE MANAGEMENT INFORMATION

# *Wildlife Trends* JOURNAL

JULY/AUGUST 2013

VOLUME 13, ISSUE 4



## INSIDE THIS ISSUE

### **Summer Plantings For Wildlife**

By Ted DeVos

### **A Summary of Parasites and Diseases in North American Game Birds**

By Ryan Shurette

### **Should You Stock Shad?**

By Scott Brown

### **Getting Reacquainted with the American Woodcock**

By Anna Huckabee Smith, CWBØ

### ***Wildlife Trends Journal* Management Calendar**

By Dave Edwards

### ***Wildlife Trends Journal* Pond Management Calendar**

By Scott Brown





## BROKERAGE

BLACKRIDGE LAND COMPANY WORKS HARD TO REPRESENT OUR BUYER AND SELLER CLIENTS' INTERESTS AND ACHIEVE THEIR GOALS.

FROM RECREATIONAL TRACTS TO INVESTMENT GRADE TIMBER OR AGRICULTURAL LAND, OUR MARKET KNOWLEDGE, EXPERIENCE, AND COMMITMENT TO OUR CLIENTS ARE SETTING NEW STANDARDS IN THE LAND BROKERAGE BUSINESS.

## LAND AND WILDLIFE MANAGEMENT

From 10 to 10,000 acres plus, BlackRidge Land Co. can assist small landowners to corporations with land management activities. We have the equipment, expertise and manpower to perform all of these services and more:

Mulching/Grinding  
Firebreaks  
Prescribed Fire Support  
Road Construction & Maintenance  
BMP  
Excavation  
Pond & Dam Construction  
Gravel Haul & Spread

Lime Haul & Spread  
Food Plot Construction  
Broadcast Herbicide Application  
Planting  
Strip Disking  
Sub-Soiling  
Accurate Aerial Photography  
GPS/GIS

Rotary Mowing or Bush-Hogging  
Hack & Squirt Herbicide Application  
Gate Construction & Installation  
Boundary Marking  
Road Side Management  
Soil Testing & Analysis  
Custom Fertilizer Application  
Custom Mapping



## Earl Says...

The summer months are always the toughest on hunters and fishermen because of the long, hot days with nothing to hunt and the fish really slow down. But it is a great time for land managers to prepare for the upcoming hunting seasons. If you can stand the heat, there are lots of things that need to be done.

After several years of talking and promising each other, our hunting club FINALLY got together to lime our green fields. Dave Edwards with Tall Tines Wildlife and Hunting Consultants has preached for years in our Management Calendar about soil testing and liming to maximize the potential of your food plots. But like most folks, we never seemed to get around to doing this most basic management practice. Well, the talk is over and we got it done.

This was an experience I wouldn't have missed for anything because the young man who drove the spreader truck throughout our property was absolutely fearless. We showed him a couple of fields that were down steep hills and in really tight, out of the way places but nothing was going to stop him. All of our fields were covered to our specifications and we'll see this spring how our hard work paid off.

And I know we all want to thank the good Lord above for the (more than) plentiful rains we've received this year. Usually this time of year we're begging for rain. Everything is green and growing and it should equate to some super antler growth for the deer. I'm on my way out today to check our game cameras.....even if it's raining.

Andy Whitaker  
Publisher/Editor



## Wildlife Trends JOURNAL

P.O. BOX 640596  
PIKE ROAD, ALABAMA 36064  
[www.wildlifetrends.com](http://www.wildlifetrends.com)  
800-441-6826

PUBLISHER/EDITOR  
Andy Whitaker

DESIGN  
Kim Koellsted/Craftmaster Printers, Inc.  
Craftmaster Printers, Inc.  
687 North Dean Road, Auburn, AL. 36830  
(800) 239-3293

### CONTRIBUTING AUTHORS

Dave Edwards  
Dana Johnson  
Brant C. Faireloth  
Wes and Leslie Burger  
Dr. Wes Wood  
Theron Terhune  
Marion Barnes  
Ted DeVos  
Bryan Burhans  
Keith Gauldin  
Rodney Dyer  
Dr. Keith Causey  
Gary Springer  
Dr. Stephen Ditchkoff  
Anna Huckabee Smith  
Tes Randle Jolly  
Kevin Patterson  
Ryan Basinger  
G. Ryan Shurette  
D. Clay Sisson  
Kent Kammermeyer  
Allen Deese  
Scott Brown  
Dr. Larry W. Varner  
Jason R. Snavelly  
Steve Tillman

For Wildlife Trends editorial,  
advertising, or change of address:  
1-800-441-6826  
[info@wildlifetrends.com](mailto:info@wildlifetrends.com)

Wildlife Trends Journal is published to provide landowners, land managers and wildlife enthusiasts the latest research-based information in wildlife and game management. Article authors are carefully selected for specific expertise in their respective fields. Subscribers receive six bi-monthly issues and a handsome library binder to save their past issues.

Articles may be reprinted with the permission of Wildlife Trends editorial staff.

Cover photo by Aaron Bryson





# Summer Plantings For Wildlife

By Ted DeVos

Ted DeVos is co-owner of Bach and DeVos Forestry and Wildlife Services and a Certified Wildlife Biologist and Registered Forester. Contact him at 334-269.2224.



*Sunflowers make an excellent dove field planting as well as providing food and cover for a variety of wildlife.*

While most folks are familiar with fall and winter foodplots, planting patches and plots for wildlife during the summer growing season has significant value. Many times, especially in droughty summers, there is a shortage of quality food in even well managed woodlands. In addition, protein, in its many forms, may be the most important nutrient for living things and is needed by all critters during the summer. Of course, other nutrients are important and are necessary for adequate nutrition. For instance, carbohydrates and fats in the diet are important for most wildlife species in winter. Carbohydrates and fats help maintain body condition during cold weather and can usually be found in winter foods like acorns and corn.

Every hunter and wildlife manager is interested in maximizing use and productivity of their plantings in foodplots and fields. Whether the field is planted for wildlife habitat or increasing wildlife observation, specific plantings can be catered to each



scenario. One consideration for foodplots is maximizing nutrition for select wildlife species, especially critical time frames of nutritional stress.

Nutrient requirements vary on the wildlife species and time of year, even by sex. Take turkey poults and quail chicks for instance. Newly hatched chicks need 28-30% protein in their diet to build feathers and grow bones and muscle. To meet these requirements, they feed almost exclusively on insects for the first 2 weeks of their life. In this case, protein management for foodplots would take managing fields for maximum insect production instead of worrying about the protein levels in the plants actually growing in the field.

Protein requirements for nesting and laying hens and songbirds are also very high compared to other times of the year. Developing and laying eggs takes a huge toll on female birds and their protein intake needs to be high. Deer

have varying requirements for protein in their diet depending on the season and sex as well. Does need high protein levels in summer when developing fetuses and milk production is important as well as in the fall when lactating does are tending fawns. Bucks need high protein when they are developing antlers and building muscle prior to the rut. Fawns and yearlings need high protein diets while growing to fill out muscle and bone structure.

Summer plantings are also necessary to grow the carbohydrates that wildlife relish during the winter in addition to establishing the seed production areas that birds like quail and doves use heavily in fall and winter.

### **Protein crops**

One of the most common problems managers encounter when attempting to plant legume forage for wildlife is that not enough acreage is planted to sur-

vive browse pressure. Folks who plant summer beans in winter greenfields (typically less than an acre in size) usually fail to establish a stand. In many cases there are neither enough fields nor are they large enough to establish legumes. Commonly, the plants sprout and are browsed to the ground immediately, essentially providing nothing for the wildlife and a waste of money. In these cases, browse tolerant legumes like clovers can be used but these still do not provide enough forage to make a substantial difference. In most cases, fields planted for summer forage legumes need to be five or more acres and planted acreage should make up 5% or more of a property to contribute substantially to wildlife nutrition.

There has been a lot of research and development in summer forage legumes for wildlife. While the agricultural community has developed high seed yield legumes like soybeans for food



*Planted in enough acres, bean fields can provide high protein browse from April through October and beans through winter. As this photograph indicates, even when 3-4 foot tall, deer continue to browse forage beans until first frost.*



production, the wildlife community is not as interested in growing beans as they are in high forage production in leafy plants that withstand browse pressure. Plants like soybeans, lab lab, and some peas have been developed that strictly focus on maximum forage production for wildlife. Many of these varieties are “roundup ready” so that roundup can be sprayed directly over the top for weed control, as well as modified for resistance to leaf diseases and nematode problems.

The more common summer leafy legumes planted are soybeans, lab lab, iron clay and cow peas, velvet bean, hairy indigo, joint vetch and alfalfa. All are excellent for forage quantity and quality. Browse and drought resistance are important qualities in the deep Southeast. High deer densities and typical early summer dry spells often are prescriptions for failure. Brands like “Eagle” brand soybeans (<http://eagleseed.com/>) have been developed specifically for leafy forage production, browse tolerance and the ability to tolerate moderate drought. While initial seed costs may be

somewhat higher, the end result is usually better, resulting in cost-savings.

There are a variety of clovers that, typically, are planted with winter grains. Clover patches can be planted and maintained as well with regular mowing and weed control and clovers can often be maintained for years. Common clovers planted in winter forage are crimson, arrowleaf, ladino, durana, red, and subterranean. Alsike clover is typically planted in spring. Most clovers provide fair forage production in summer and also make excellent insect production areas. While most are planted in the fall in greenfields, they typically grow very little in winter and are not utilized much until spring when they start growing.

With all forage legume plantings, the idea is to have an actively growing crop through the full summer. Therefore, agricultural practices are used to maximize the growth of the stand. Pre-planting disking, pre and post planting herbicides, fertilizer and liming of fields are all used and can get expensive, but are well worth the effort and expense.

## **Carbohydrate and seed production**

The other main category of summer plantings is grains for carbohydrates and seed production. Plants such as millet, sorghum, corn, sunflower, etc are all used to produce both quality feed as well as cover for wildlife in summer – winter. Even when landowners we work with do not have an interest in dove hunting, we still often recommend dove field plantings for deer, turkeys and quail. A large (5 – 15 acre) field planted to a mix of corn, grain sorghum, millet, benne, buckwheat and/or sunflower becomes a focal area for the deer, turkey and quail all summer as well as nearly all winter. These plants growing in summer provide good cover and insect production for these critters and, once matured with abundant seed, provide a buffet for these species all through the fall - winter. Most of these plants do best planted in larger acreage fields so that they can stand up to pressure from deer and raccoon damage.

Millet is often planted for quail and doves and typically has the shortest “season” of these plantings. Quick to



*Both the number of acres planted and deer population will determine whether you can successfully establish beans. Browse pressure can devastate a field, in this case, more scarecrows are needed!*





*Planting a variety of plants like sorghum, corn, sunflowers, millet, etc., in a field is not only good for a quality dove field but provides a focal point for all wildlife on a property.*

seed out, with short cover, browntop millet provides an abundant small seed as well as insects for quail and turkeys and is a great seed for dove fields. This millet is also suited to small patch plantings. Other types of millet have been developed and are suitable for other uses. Taller millets, like Pearl, dove proso and foxtail millet, make good cover and feed patches for quail. Millets like Japanese and Chiwapa make excellent waterfowl impoundment plantings growing well on wet soils and producing abundant seed and taller cover for ducks.

Sorghum is a longer season plant and is available in several varieties from 3' to 8' tall plants that provide a larger seed, taller cover and a seed that will not decompose nearly as fast as millet. Sorghum is not only readily used by quail, doves and turkeys, but deer will also feed heavily on the seed heads in the fall – winter. Sorghum is a good high fat and carbohydrate food for all wildlife. Sorghum is also an excellent choice for scattered small plots (1/4 – 1/2 acre) throughout woodlands managed for wildlife. It tends to be fairly drought and deer browse

resistant, and does well in small patches.

Corn is a common “standby” plant that many people plant, with good reason. It is an excellent cover plant in summer – fall and an excellent high carb/fat source in winter, if the field has any grain left by then. If not planted in enough acreage, corn can easily be decimated by both deer and raccoons which will eat all the grain and knock down the stalks, leaving nothing left for other critters. However, if enough acreage is planted, corn provides a good food source for winter and makes an excellent addition to dove fields.

Sunflower is probably the harder of these summer grains to establish since they are susceptible to weed problems and deer will eat off the maturing heads during summer. However, if you can get a field established, there is not much better dove field planting and turkeys and quail also use the cover and seed in sunflower fields readily.

### **Insect production/native plantings**

Finally, plantings for broods simply entails promoting insects in an accessible form. Insects must be abundant and avail-

able in fields that chicks can get into and run around to catch the bugs. For this, fields of ragweed, fallow winter green-fields and clover fields as well as burned pineywoods all are excellent insect production areas. To promote ragweed, open fields, 1-3 acres in size are simply disked in the fall about the same time as green-fields are planted. In most cases this is all that is needed to get a field of ragweed since, often, the seeds are in the soil ready to grow. If not, the seed is readily available and can be planted. The beauty is that, with occasional disking, the seeds will continue to resprout every year. Fertilizer and liming helps but is usually not necessary. These “fallow” fields not only create some of the best brood fields available, but ragweed also grows abundant forage in the 20-25% protein level that deer love to browse.

Food plot planting with an eye on meeting the seasonal needs of wildlife is highly important. Providing an abundance of high protein foods available for your wildlife in summer and high carbohydrates in winter, you will not only see both a higher number of critters but also healthier wildlife populations.



# A Summary of Parasites and Diseases in North American Game Birds

By Ryan Shurette

G. Ryan Shurette is a Certified Wildlife Biologist.



*Bobwhites sometimes ingest larval tapeworms in ants, beetles, and other intermediate hosts. Tapeworm adults live in the intestines of many birds but rarely do they significantly affect nutrient absorption or the overall health of their avian host. (Photo R. Shurette)*

**M**ammalian diseases, especially those found in white-tailed deer, have been a popular subject among wildlife managers over the past several decades. For example, Epizootic Hemorrhagic Disease (EHD) is a well-known viral disease that is responsible for periodic die-offs in white-tails across various parts of the country. From years of study and information sharing, many are familiar with the symptoms of EHD and some land managers can even tell you the vector that carries this virus is a biting midge in the *Culicoides* genus. It seems less is known by the hunting public however about the various diseases that vex our game bird species. This article will provide a summary of some of the major avian diseases (in both domestic and wild game bird populations) across the country.

## **Avian Anatomy and Physiology Review**

In order to better understand the nature of avian disease and their effects, let's first



briefly discuss the basic anatomical and physiological characteristics of birds and contrast these with perhaps the more familiar features found in mammals. Since birds are more closely related to reptiles than mammals, they are obviously quite different from a white-tailed deer. A few of the most obvious differences are that birds have a rigid bony beak, feathers, and lack pinnae (external ears). But as we examine a bird more closely we also find some significant internal differences. The skin, as in most animals, is a bird's first line of defense against disease-causing agents. Birds lack skin glands (sweat, oil, etc.) with the exception of the uropygeal gland. This gland is found at the base of the tail in all North American game birds and is used for oiling and preening. As stated earlier, instead of fur, birds have specialized keratin-based structures commonly known as feathers which are, of course, used for flight and protection from the elements. These feathers can be a liability however in that they can harbor disease-causing organisms, parasites, and moisture if they are not properly maintained by constant preening. Dusting is another strategy many upland bird species employ to help maintain healthy plumage and skin.

Birds, like mammals, are warm blooded and this adaptation also helps them to fight some types of infection. The respiratory system in birds is different from other vertebrates. Birds have relatively small lungs plus nine air sacs. The lungs themselves are attached to the thoracic cavity wall and they are relatively rigid. All those air sacs act as bellows, and allow for a uni-directional flow of air through the lungs. This one-way flow means the air passing through a bird's lungs is always fresh and has high oxygen content. Air flow in the lungs of mammals, on the other hand, is bi-directional, since it moves only into and then back out of the lung. Birds also have light hollow bones and the air sacs described above extend into the larger

ones as well as into the pelvic girdle.

Birds lack teeth of course and typically ingest food items whole. Most birds, including members of the Orders Galliformes (quail, turkeys, pheasants, etc.), Columbiformes (doves, pigeons, etc.), and Anseriformes (ducks, geese, etc.) have an extension of the esophagus called a crop that is used to store food. Another unique feature, the gizzard is well developed in many seed-eating birds. The gizzard is lined with a tough membrane called koilin that helps grind hard food items like seeds. The inside of a gizzard may seem like a harsh environment but as we will discuss later even this organ can harbor parasites like the gizzard roundworm, which can be fairly common in waterfowl and other species. The large intestine consists of a short colon and a pair of ceca, or sac-like appendages of the colon. Birds have no true lymph nodes, although ducks and geese do have lymph node-like structures within the body. Interestingly, birds also lack a urinary bladder and uric acid is the final urinary product. Most species of bird have only a left ovary and oviduct. Now let's get into the actual disease-causing agents.

### **Parasites**

The list of parasites known to infect North American birds is long and varied. Many of them are similar to those found in other animals, but many are specific to certain families of birds. Here, we will break the list into two groups, external and internal parasites. Two external avian parasites are **lice** and **mites**. Chewing lice (Order Phthiraptera) are dorso-ventrally compressed insects that live on the feathers and sometimes skin of mammals and birds. There are very host-specific members in this group, with some lice species found only on one particular species or genus of bird. Most bird lice feed on feathers and dead skin but some species feed on blood. Any wounds caused by lice are not usually life-threatening but can lead to greater risk

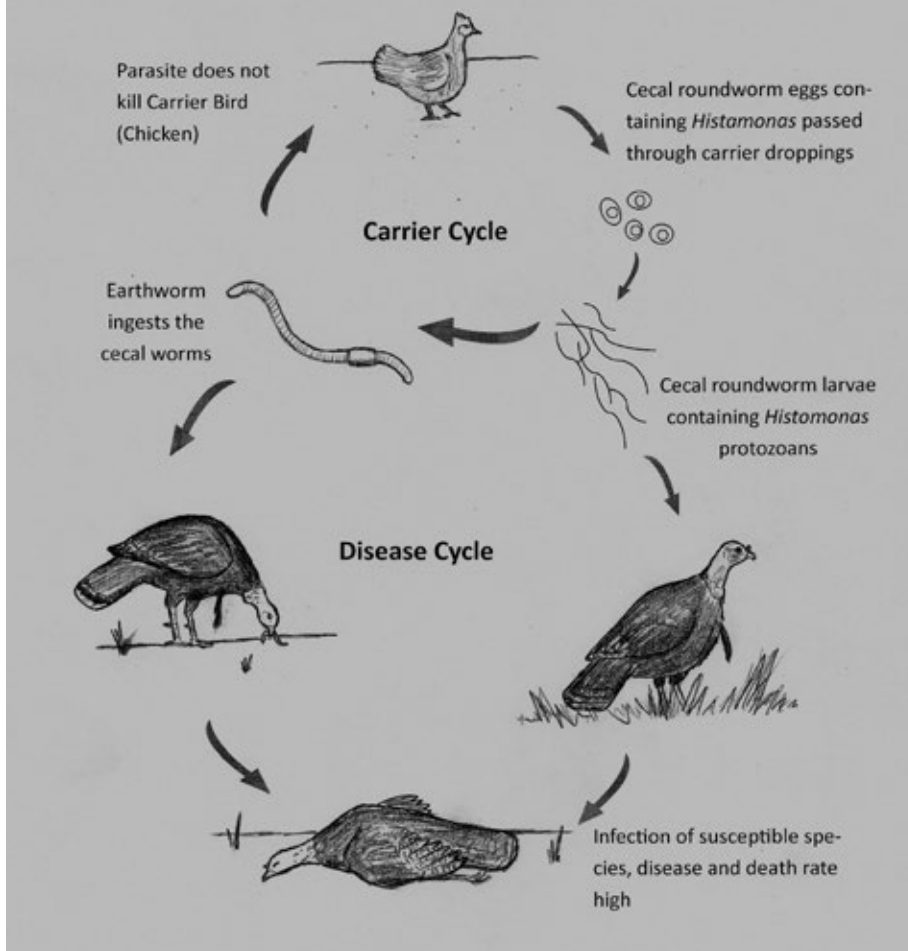
of other diseases. Bird mites (*Demanyssus gallinae* or chicken mite, and *Ornithonyssus* Sp. or fowl mites) are not insects but are tiny arthropods more closely related to spiders. Chicken mites are typically red in color from the blood they ingest. They may also feed on skin cells and feathers. Lice complete their life cycle on the bird whereas mites lay eggs in the environment and may live for extended periods of time off the host. Mites are not as common on most wild birds as lice, but they have been known to infest human dwellings and bite people. **Ticks** are also a fairly common pest of upland birds but do not usually pose a risk to otherwise healthy birds. Wild fowl are generally able to keep external parasite infestations at bay by preening, scratching and dusting, but in some cases they can cause severe feather and skin damage and insomnia. Increased preening time also expends valuable energy reserves.

Internal avian parasites include various protozoans (one-celled organisms), tapeworms (cestodes), round worms (nematodes), and flukes (trematodes). One important protozoan-caused disease in gallinaceous birds (especially wild turkeys) is "**blackhead disease**" or **histomoniasis**. Signs of this disease include sulfur-colored droppings, lethargy, drooped wings, closed eyes, and head held close to the body. This is a complex disease caused by an infestation of the protozoan *Histomonas meleagridis*, which is found inside the cecal roundworm (*Heterakis gallinarum*). This life cycle is known as an "indirect life cycle" (as opposed to the "direct life cycle" of a parasite that lacks an intermediate host). When a turkey or quail unknowingly eats the larvae of a cecal roundworm (or an earthworm that has ingested the larvae) the histomonads invade the lining of the ceca and reproduce rapidly. Then, usually along with the colonization of bacteria, they produce ulceration and hemorrhage, resulting in extensive inflam-



## Life Cycle of *Histomonas meleagridis*

### "Blackhead Disease"



*Blackhead disease is caused by the protozoan *Histomonas meleagridis*, which parasitizes the cecal roundworm (*Heterakis gallinarum*). When a turkey unknowingly eats the larvae of a cecal roundworm (or an earthworm that has ingested the larvae) the histomonads invade the lining of the ceca and reproduce rapidly, often resulting in death of the host.*

mation and often the death of the host bird. The histomonad protozoan, which can't survive direct exposure to the environment, relies on the protective shelter of the cecal roundworm eggs which are shed in the droppings of infected birds. While turkeys are very susceptible to the clinical symptoms of blackhead disease and entire flocks can die from an outbreak, chickens and pheasants are not, and therefore they typically serve only as carriers. This illustrates the threats domestic poultry may have on wild turkey flocks where they coexist in rural areas. Bobwhites are also susceptible to the disease but

do not typically experience the high mortality rate seen in turkeys. According to the National Wild Turkey Federation, approximately 12% of the sick or dead wild turkeys that were submitted for diagnosis to the Southeastern Cooperative Wildlife Disease Study (SCWDS) from 1972-1994 were confirmed to have blackhead disease. This disease is not known to affect humans.

**Coccidiosis** is another protozoan-caused disease that affects a wide range of birds. Coccidia typically invade the intestinal tract, but some species invade other organs, such as the liver and kidney. In waterfowl, renal and intestinal

coccidiosis is common, while the intestinal coccidiosis is the most common form in members of the pheasant family. *Eimeria* is one of the most important genera of coccidia in birds. Most *Eimeria* have a complex life cycle in which the mature parasite in the intestine or kidney of an infected host bird produces protected eggs, or oocysts, which are then passed into the environment in the bird's droppings. The oocysts develop into an infective form while they are in the environment and an uninfected bird ingests the infective oocysts while it is eating or drinking, completing the cycle. Although coccidia are found worldwide, the reported outbreaks of coccidiosis in wild US waterfowl have been in mid-western states, including Nebraska, Wisconsin, North Dakota, Illinois, and Iowa. Signs of this disease are not usually visible in the field but anemia, convulsion, and emaciation have been reported for captive birds. Humans are not at risk from avian coccidiosis.

Other internal parasites include **tape-worms, roundworms, and flukes.**

These internal parasites have similar life cycles and can negatively affect the host bird in several different ways. Tissue damage can be caused directly by the parasite boring into organs, including the gizzard, liver, and intestines. Internal parasites that feed directly on the tissue or blood can weaken the host and make them more susceptible to other diseases. Tapeworm adults live in the intestines of many birds but rarely do they significantly affect nutrient absorption or the overall health of their host. Turkey poults or bobwhite chicks typically ingest the larval tapeworms in ants, beetles, and other intermediate hosts. Parasitic roundworms are known to infect various tissues and organs in birds including the heart, gizzard, lungs, and trachea, but they are most common in the stomach and intestines. Nearly seventy species of roundworms have been reported in turkeys alone, according to the NWTF. Avian nematodes



have both direct and indirect life cycles. For example, in the gizzard worm *Cheilosporira spinosa*, larval nematodes in the grass are ingested by grasshoppers. Bobwhite or ruffed grouse chicks then eat the grasshoppers and become infected. The worms feed in the lining of the gizzard and reach sexual maturity in 4-6 weeks. The worm eggs are passed out in the droppings of the quail or grouse and hatch in the environment, starting the process over again. Flukes, or parasitic flatworms, may infect the liver, stomach, intestines, eyes, or kidneys of game birds. They are often affiliated with moist environments as the required first intermediate host is a snail. Ducks, turkeys, or other birds ingest the encysted trematodes while feeding on the snails. In some cases internal parasites can severely weaken a bird's immune system and may increase the likelihood it will succumb to the elements or to other disease, but more often than not the host bird can tolerate the parasite with no significant problems. In fact, the vast

majority of game birds we harvest will contain one or more type of parasite. However, proper cooking will kill any organisms that find their way into the edible parts of the body.

### **Bacterial Diseases**

Hundreds of species of bacteria are known to colonize the plumage, skin, or internal tissues of birds. Many are not known to cause disease. The following four species however are some of the most important disease-causing bacteria in waterfowl, wild turkeys and other galliformes. *Pasteurella multocida* is the bacterium responsible for causing **fowl cholera**. Wild outbreaks of fowl cholera are most commonly seen in waterfowl. This disease can be acute or chronic, and it is often observed as having a sudden onset and high mortality rate. In environments contaminated with *Pasteurella*, overcrowding or stress from cold, damp weather can lead to losses of birds to this disease. Waterfowl outbreaks therefore usually occur in large overwintering flocks.

**Mycoplasmosis**, also known as "infectious sinusitis" or "MG" in the poultry industry, is caused by the bacterium *Mycoplasma gallisepticum* and is spread via direct bird to bird contact. In the initial stages this bacterium causes sneezing, coughing, and minor sinus swelling in domestic chickens and turkeys. If the bacteria infection advances, however, extreme sinus swelling and inflammation in the head occurs, sometimes leading to blindness. Birds that survive the infection continue to carry the bacteria and may spread it to other birds in the future. Game birds in the pheasant family and some song birds are known to be susceptible. In house finches it has been observed to cause severe conjunctivitis and there was an epidemic in the eastern US house finch population in the mid-1990s. At Auburn University I was involved with a large-scale campus house finch banding study, and during the conjunctivitis epidemic, it was not uncommon to have rates of 40% of individuals showing signs of the disease. Many were affect-

# "It's a Tough World Out There!"

**STOP** Wildlife, Wind and Weeds  
from Killing your Seedlings



Choose Plantra® to  
make sure they  
**Survive, Thrive,  
Succeed!**<sup>™</sup>

Tree Tubes • Bark Protectors • Weed Mats  
Fertilizer Packets • Deer Repellent

 **Plantra**®  
Plant Like You Mean It

[www.plantra.com](http://www.plantra.com)  
**800-951-3806**

©2011 Plantra, Inc.





While turkeys are very susceptible to the clinical symptoms of blackhead disease and entire domestic flocks can die from an outbreak, chickens are not, and therefore they typically serve only as carriers. This illustrates the threats domestic poultry may have on wild turkey flocks where they coexist in rural areas. (Photos R. Shurette)

ed to the point they could barely see.

Another *Mycoplasma* species, *M. synoviae*, causes the condition known as **synovitis**. This disease is most often transmitted from infected hens to eggs. This disease has two forms; a respiratory form (common in domestic poultry) that is similar to mycoplasmosis, and a systemic form that causes lethargy, swollen joints, blisters, loss of weight, and various lesions. Over time individuals become emaciated and death is fairly common in infected galliformes. There is no effective vaccine for this disease in wild or domestic turkeys and once infected, individuals carry the bacteria for life. In a 1990 Arkansas survey, none of the 45 sampled wild turkeys tested positive for either *Mycoplasma* species. Avian mycoplasma infections appear to pose no threat to humans.

*Salmonella* are gram-negative, rod-shaped bacteria with over 2000 species. Two of these species are responsible for two well-documented diseases in galliformes. *S. pullorum* (**pullorum disease**) and *S. gallinarum* (**fowl typhoid**) were once economically important diseases of chickens and turkeys but out-

breaks have been successfully controlled in the poultry industry. Symptoms of pullorum in turkeys and chickens include excessive thirst, lethargy, and anorexia. In chronic cases damage to the liver or other organs can occur. Both diseases are transmitted via bird-to-bird contact, hen to egg (recovered [carrier] hens usually transmit the bacteria to approximately a third of the clutch), cannibalism of infected carcasses, and fecal contamination of food or water. In turkeys and domestic chickens, pullorum disease in chicks can have up to 100 percent mortality. Fowl typhoid typically has a lower mortality rate and some infected chicks can recover without medication. These diseases also vary in their virulence depending on species. In a 1991 study by Buchholz and Fairbrother, ten-day-old northern bobwhite and mallard duck chicks were inoculated with *S. pullorum*. Mortality in the bobwhites ranged from 65% to 100%, whereas no mallards died or exhibited any clinical signs of infection. Risk of infection increases where there are natural or human-caused high concentrations of

birds. Periodic *Salmonella* bacteria outbreaks also occur in passerines (songbirds) and therefore it is strongly advised to wash your hands after filling or cleaning backyard bird feeders. Many people successfully use a 10% bleach solution to help keep feeders free of harmful bacteria and to reduce other types of diseases.

### **Fungal Diseases**

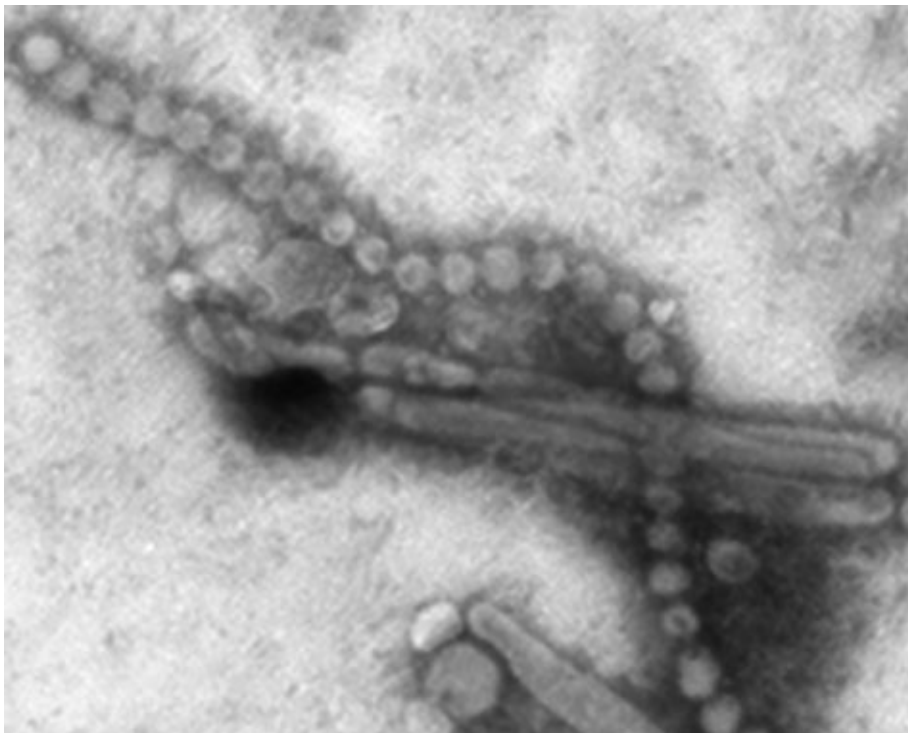
**Aspergillosis** is probably the most common fungal disease found in birds and it infects turkeys, quail, doves, waterfowl, and several other types of birds. The most common species of fungus responsible in avian infections is *Aspergillus fumigatus*, and it can typically be found in greater than 10% of most bird populations. This disease causes nodular lesions in the respiratory tract, especially in the lungs and air sacs discussed earlier. Symptoms of infection include rapid, heavy breathing and lesions around the eyes. Since the responsible agent is a fungus, inhalation of spores is the principle means of infection. The spores of *A. fumigatus* are extremely persistent in the environ-

ment and they can infect humans and other animals. People infected with *Aspergillus* are usually immuno-compromised and healthy humans may exhibit only minor allergic symptoms, or no symptoms at all. Sometimes however, the fungus can be invasive in humans and other animals and can cause severe damage in the lungs and other tissues of the body.

## Viral Diseases

A myriad of avian diseases are caused by viruses. Perhaps the most familiar one in recent times is **avian influenza**, or bird flu, due to the potential risk it poses to humans. One of the many recent strains of the virus, known as H5N1, is currently infecting and killing both wild birds and domestic poultry in Southeast Asia. There it persists in the poultry industry due in part to low hygiene conditions and dense brooding quarters. Most human cases there result from either handling infected dead domestic birds or from contact with infected fluids. Although there have been documented strains of less aggressive bird flu in the United States (including Texas in 2004), they have been eradicated thus far, and have not infected humans. Fortunately the H5N1 strain has not been found in any North American birds to date, and there are no known cases where humans contracted avian flu from wild birds. An even more recent strain, H7N9, has been infecting people in parts of China since March of 2013 and reportedly has caused a number of deaths there. This strain appears to be non-virulent in poultry and therefore it may prove to be more difficult to detect and track.

**Avian pox** is a very contagious viral disease that can infect any species of domestic or wild bird. Avian pox viruses belong to the genus *Avipoxvirus* and at least three common strains have been identified and studied to some extent. Fowl pox virus, pigeon pox virus, and canary pox virus vary in their virulence and the species of hosts that they infect.



*A recent strain of bird flu, H7N9, has been infecting people in parts of China since March of 2013. No human cases of bird flu have been documented in the US. (Photo credit US Centers for Disease Control and Prevention)*

The strain seen in wild turkeys and related species is the fowl pox virus. An outbreak in bobwhites was recorded in 1978 -79 in north Florida and south Georgia by Davidson et. al. and a small percentage of the southeastern bobwhite population typically expresses symptoms of the virus each year. The disease is commonly spread by several species of mosquitoes, and can also be transmitted long distances via direct contact between wild birds. Avian pox causes lesions (wart-like growths) on the legs, head, and other non-feathered parts of the bird's body. As the lesions partially heal, they become rough and dry and turn dark brown or black in color. Although some infestations are severe enough to cause death, many birds overcome the virus. In some cases, pox causes the mouth, larynx, and trachea to become infected in a condition known as avian diphtheria. Vaccines are sometimes used in domestic birds but there is no known effective treatment for wild bird populations. Avian pox virus has not been observed to infect humans.

**Marek's disease**, which is caused by

a herpes virus, typically induces neoplasia (cancer). Like some of the other aforementioned diseases, Marek's is primarily found in the poultry industry, but it is commonly tested for in wild game birds like turkeys and pheasants. In chickens, Marek's disease virus is transmitted through direct bird to bird contact and symptoms include dull gray eyes, blindness, and paralysis. It has not been important as of yet in wild turkey populations. Of 30 individual wild turkeys captured for translocation into Michigan (from Iowa and Pennsylvania), none tested positive for Marek's (Schmitt et. al., 1983). Another study tested the susceptibility of several exotic game birds (including common pheasant, gray partridge, European quail, and Greek partridge). Only the pheasant was found to be susceptible to infection with a virulent version of Marek's disease.

Besides the herpes virus above, **retroviruses** are also known to induce neoplasm in domestic chickens and turkeys. However, until very recently, retroviruses were not known from wild North American bird populations. But in 2009,





*Avian pox is commonly spread by several species of mosquitoes, and can also be transmitted long distances via direct contact between wild birds. Avian pox causes lesions (wart-like growths) on the legs, head, and other non-feathered parts of the bird's body. (Photo credits Michigan Department of Natural Resources)*

**Lymphoproliferative Disease Virus or LPDV**, was identified in ten wild turkeys submitted to the SCWDS for diagnostic examination, including five samples from West Virginia, and one each from North Carolina, Missouri, Georgia, and Arkansas (Brown et. al., 2012). The infected turkeys were found dead or in very poor condition. After this finding,

tissues from harvested wild turkeys from other states were tested for LPDV. Dozens of additional infected individuals were identified from Colorado, New Jersey, New Hampshire, and South Carolina. LPDV was known to occur in domestic turkeys in Europe and Israel, but it is completely new in wild North American birds. It causes external

lesions on the head and feet, and internal nodules on the organs. Field symptoms of infected birds include disorientation, weakness, and lethargy in those birds that are still alive, though the disease is rapidly fatal. This disease has been observed in some specimens in conjunction with avian pox (described earlier) and the scabby lesions on the



**BACH & DEVOS**  
FORESTRY AND WILDLIFE SERVICES, INC.

## Woodland Mulching: It Can Be Addictive!

**Land Clearing- Logging Clean-up - Firelanes - Roads  
call us at 334-269-2224**



**Bach & DeVos** operates two woodland mulchers/grinders on forestry based carriers.

Other services include timber sales, forestry/wildlife plans, burning, site preparation and planting, GPS and mapping, land sales.



legs and head are similar to those expressed in that disease. A region-wide LPDV study is currently underway to determine its significance in the future of our wild turkeys and hunters are asked to report any suspicious individuals they may harvest or find.

### Conclusion

After reading this article, you will probably not need reminding that it is a good idea to wear latex gloves when dressing game birds and that the meat should be cooked thoroughly to a temperature of at least 165 degrees Fahrenheit. The truth is most avian diseases affect only birds but with certain organisms, there can be legitimate health risks from infected individuals. It is probably wise not to eat any obviously diseased birds.

In reality, there is not much land managers can do to prevent (or treat) most diseases and parasites in wild bird populations. Often symptoms go unnoticed and diagnosis of live individuals in the field is not usually possible.

Monitoring of disease symptoms and parasite loads in harvested birds is possible however, and can be helpful in establishing baseline health and stress levels in a population. If you do observe sick or dead birds, and are suspicious of disease, it is important to contact your local USDA Wildlife Services office or local conservation department. Probably the most important thing a manager can do is to provide the quality habitat components needed for successful reproduction and high recruitment rates for the species they manage.

### References

- Brown, J.D., Allison, A.B., Keel, K.M., Welch, T., and Fadly, A.M. 2012. Identification of lymphoproliferative disease virus in wild turkeys (*Meleagris gallopavo*) in the United States. *Proceedings for the 116th Annual Meeting of the United States Animal Health Association, October 18-October 24, 2012, Greensboro, North Carolina.* 97-98.
- Buchholz P.S. and Fairbrother A. 1992. Pathogenicity of *Salmonella pullorum* in northern bobwhite quail and mallard ducks. *Avian Disease*, 36, 304-312.

Clayton, D.H. 1991. *Coevolution of avian grooming and ectoparasite avoidance. Bird-Parasite Interactions: Ecology, Evolution and Behaviour* (eds J.E. Loye & M. Zuk), pp. 258-289. Oxford University Press, Oxford.

Davidson D.R., Doster G.L. *Blackhead Disease does not Really Cause Black Heads.* *NWTF Wildlife Bulletin* No. 25, pp. 25(1-4).

Davidson, W.R., Kellogg, F.E., and Doster, G.L. 1980. An epornitic of avian pox in wild bobwhite quail. *Journal of Wildlife Diseases*, 16(2):293-8.

Hopkins, B.A., Skeeles, J.K., Houghten, G.E., Slagle, D., Gardner, K. 1990. A survey of infectious diseases in wild turkeys (*Meleagris gallopavo silvestris*) from Arkansas. *Journal of Wildlife Diseases*, 26(4):468-72.

Lesník F., Pauer T., Vrtiak O.J., Danihel M., Gdovinová A., and Gergely M. 1981. Transmission of Marek's disease to wild feathered game. *Vet Med*, 26(10):623-30.

Oates, D., Houck, B., and Sterner S. 2005. *Internal Parasites of the Wild Turkey.* *NWTF Wildlife Bulletin* No. 26

Schmitt, S.M., Cooley, T.M., and P.D. Friedrich. 1983. *Disease Monitoring of Wild Turkeys Used in the 1983 Transplant Program.* Michigan DNR Report Number 2965.



**GROW 'EM STRONG**

Improving deer quality & the hunting experience in Alabama

**Alabama DEER ASSOCIATION**

For membership questions, please contact Belinda Kennedy:  
256.990.3840 or [bmk@mindspring.com](mailto:bmk@mindspring.com)



# Should You Stock Shad?

By Scott Brown

Scott Brown has 30 years experience in researching and managing natural resources throughout the Southeast. Scott founded Southern Sportsman Aquatics & Land Management in 2007 and now has clients from Texas to Florida. Scott can be reached at [scott@southernsportsmanaquatic-sandland.com](mailto:scott@southernsportsmanaquatic-sandland.com) or (214) 383-3223.



*This eight pound bass had a stomach full of these five inch threadfin shad.*

Many of our clients ask if they can improve their largemouth bass fishery by stocking threadfin shad (*Dorosoma petenense*) or gizzard shad (*Dorosoma cepedianum*). Both are largemouth bass forage, but threadfin shad are generally a better fit and less detrimental to a fish population than gizzard shad. If conditions are right, largemouth bass, black crappie and Morone Hybrids (sunshine bass/palmetto bass/whipers) can all greatly benefit from the stocking of shad. Whether you should stock threadfin, gizzard, both or neither should be carefully decided by the landowner and lake manager. We stress multiple forage species and various sizes of forage for quality largemouth bass management.

**Threadfin shad** are a silver fish that grow between three and five inches total length, never getting longer than six inches their entire lives. The bottom jaw projects beyond the tip of the snout, the last dorsal fin ray when folded down will be almost

as long as the fish is deep or longer and they may have a tail fin with yellow tint. The average life span of threadfin shad is three to four years. Threadfin shad are filter feeders that thrive on zooplankton (microscopic animals) and phytoplankton (microscopic plants) also referred to as planktonic algae for food. Threadfin shad travel in schools, generally in the top six feet of the water column where their food is located. They spawn at various temperatures depending on your location, but do spawn in spring and fall. Threadfin shad can suffer winter die-offs when water temperatures get below 42° F. They are usually the first to start piping (gasping for air) and floating if a low Dissolved Oxygen (DO) fish kill is in progress.

**Gizzard shad** are silver fish that grow between 9 and 20 inches weighing up to three pounds (growing larger in the South than up north), the lower jaw does not project beyond the snout and the dorsal fin ray when folded down only projects half the depth of the fish

or less. The average life span ranges from four to six years. A gizzard shad can reach up to five inches after hatching by its first winter. Gizzard shad feed and occupy the water column similar to the threadfin. They can tolerate colder temperatures better than the threadfin shad. Their expedited growth rates and prolific spawning success make them the topic of much debate by lake managers whether they are positive or negative for a fish population. There have been documented cases where the waste from too many gizzard shad present created poor water quality and compete with fry of more desirable species for food. The warmer the climate and the more productive your waterbody is, the more caution should be taken prior to stocking gizzard shad.

Too often we hear of pond owners stocking these expensive forage fish under the advisement of a hatchery, only to be disappointed in the results and asking us “where did they all go?” If these fish are present they can usual-

ly be seen schooling at the surface in spring, summer and fall at sunrise and sunset while predators are frantically feeding on them. Also cutting open the stomachs of fish such as largemouth bass and crappie that feed on shad can reveal if they are present. If your water is clear (not green) most or all the time, plankton is absent or low in abundance, which forage for shad is missing, making it difficult to create a self supporting population. Shad may only survive a month or less after stocking if sufficient food is not available. If your entire water column reaches temperatures of 42° F or below during the winter, threadfin shad may have died off, despite not seeing individuals floating. If you know the entire water column reaches those temperatures in your water body, then reconsider stocking or realize you may have to periodically restock if a winter die-off occurs. This is where knowing the water chemistry of your waterbody comes into play, as the surface may be 40° F, but five to



*These gizzard shad are still within consumable size (14 and 12 inches) for bass 12 lbs and over, but once they cross the 15 inch total length mark, very few if any largemouth bass will be able to consume them.*





*Using a simple Secchi Disk during multiple times of year can help determine if your lake qualifies for a shad stocking.*

seven feet below the surface it may be 60° F with plenty of Dissolved Oxygen (DO) to support a threadfin shad population over the winter. The final reason they may not be present is they were all eaten by predators and not enough were initially stocked.

Prior to stocking, conduct an electro-fishing survey to see what species are present and what species would benefit from a shad stocking. At the very least a water chemistry profile should be created including summer and winter samples to make sure that if they are stocked they will they survive. The water chemistry samples will help verify if adequate forage (plankton) is available for shad, if not will fertilizing alone or liming plus fertilizing be required. Also, documenting winter and summer DO and temperatures throughout the water column will help indicate whether



*Here are some gizzard shad collected in the fall of their first year in Central Florida, already six inches total length.*



they can survive during the extreme weather periods.

We never prescribe stocking gizzard shad in the Deep South, as they grow too fast and reach lengths too large to be consumed by predators too quickly. A 13 pound bass needs big forage. However, they cannot consume an extra large gizzard shad, which are not uncommon in highly productive systems in the South. The larger the waterbody and/or the more trophy bass present, the less you need to worry about gizzard shad issues. If the numbers of large bass begin to drop, the numbers of large gizzard shad will rise. If you already have gizzard shad, we recommend monitoring them and if large individuals get too abundant, they can be removed with nets or by a low dose Rotenone application where only the shad will perish and remaining species will survive. We recommend whenever using Rotenone to let a licensed professional perform the work, and check your individual state's regulations regarding Rotenone use and permit requirements.

To establish a self sustaining population of threadfin shad, an algae bloom is necessary whether it is natural or induced from a fertilization program. If a waterbody does not have an algae bloom, threadfin shad normally only survive as long as they can without eating. Due to cool water temperatures in winter many lakes go from green to mostly or crystal clear in winter back to green in spring. Most naturally green lakes have enough food for shad to survive through winter until it greens up again in spring. When stocked into a clear lake they become a very expensive fish food, no different than what comes out of your fish feeders, except these come out of a hatchery truck. And in case you misread – they cost a lot more than pellet feed. I never recommend stocking threadfin shad in crystal clear lakes, but we do look for alternative bass forage species. If your lake is clear and you do not want it green, consider using additional bream, golden shiners or minnow species (at start-up) as forage. An initial stocking of threadfin shad, or any forage species (food for other fish), needs to be excessive to ensure some survive and naturally reproduce to replenish themselves while predators are reducing their numbers. Threadfin shad can be stocked in both spring and fall. Some folks shy away from fall stockings. However, if they are introduced at the right water temperature, you may get a spawn just after stocking, which can be like a double stocking for the price of one. On lakes with an already good bass population and you are trying to get it to quality or trophy status, stocking in spring and fall the first year may be enough to establish a self sustaining population. Sometimes it may take a year or two to get a population established. Most hatcheries sell threadfin shad in

# PRINT

responsibly.

**Craftmaster is proud to be an approved provider of FSC®-certified papers.**



By choosing to print on paper that is Forest Stewardship Council™ Chain of Custody certified, you help create demand for responsibly managed resources, which in turn motivates more suppliers to adopt good stewardship practices.

Buying products made from wood doesn't have to add to the problems facing our planet. Visit our website to find out how you can purchase quality FSC® Certified wood products and help sustain our forests for future generations.



CRAFTMASTER  
PRINTERS, INC.

334.502.3456 800.239.3293 687 North Dean Road Auburn, Alabama 36830 [www.craftmaster.com](http://www.craftmaster.com)



**Native** Grasses & Legumes  
for Wildlife Habitat

- Food Plots
- Nesting & Brood Cover

Conservation Partners  
**BAMERT**  
TRUSTWORTHY  
Specializing in Native Grasses

50+ Years Experience  
Regionally Adapted Seed  
Prepaid Freight 200+ lbs.

Visit Our New Online Store at  
**800.262.9892** [www.bamertseed.com](http://www.bamertseed.com)  
[natives@bamertseed.com](mailto:natives@bamertseed.com)





*Here is an electrofish sample being taken in a nutrient rich lake with both threadfin shad and golden shiners in abundance.*



**DISTRIBUTION OF HERBICIDES • AERIAL APPLICATION OF HERBICIDES USING HELICOPTERS  
FORESTRY, RIGHTS OF WAY, AQUATIC, RANGELAND AND PASTURE • AGRICULTURE**

**HEADQUARTERS: LOUISVILLE, MS • 662.779.2183**



a “Load”, which can be between 7,000 and 12,000 individuals depending on their size, time of year and location of your pond. Prices range from \$1,500 to \$2,000 per load, depending on threadfin shad size, numbers and distance your waterbody is from the hatchery. Stocking a “Load” per 10 acres is recommended. If you have a twenty acre lake, you may want to order a spring and fall delivery of one “Load” each. This spreads out the fish introduction and may help the following spring with more being available than if two loads went in at once. Again, this can be influenced by how the predator population structure looks. If you are just starting out and your bass are not over 12 inches, the larger threadfins will not be consumed and will most likely spawn a few times before your bass catch up in size.

We strongly advise against going out, capturing and hauling your own shad from a buddy’s lake or nearby public water. For starters, depending on the time of year and your knowledge of the species, you could be introducing a fish (gizzard shad) you didn’t want in your lake. You also have no idea how many are going in, and probably not enough, which means you are wasting time and resources and your forage gets consumed before they can repopulate. Finally, each state has unique regulations on moving fish, even from private waterbody to private waterbody.

As stated earlier, when creating a quality fishery we recommend establishing multiple forage species (bream, threadfin shad, golden shiners, silver-sides (glass minnows), minnows, tilapia, etc.) to spread out predation on multiple species, sometimes by multiple predator

species. If one forage species gets depleted, predators can switch targets and the previous target forage species may have a chance to recover. Also, having a variety of forage species is beneficial by ensuring multiple predator species at various life stages/sizes always have food available for optimal growth. Along with forage presence, bass removal is absolutely necessary to achieve a quality or trophy fishery. One without the other leaves a weak link in your management strategy and will not solve all your problems or achieve your long term goal. Also remember lake management is constantly changing. Your issues today may be solved tomorrow, but new ones may appear because of those changes. High quality lake management is not a one time event, tracking changes and modifying management recommendations are always necessary.



*Big bass require big forage. Quality and trophy bass do not get that size by eating small forage later on in life. When assessing your forage, look at all the species and sizes available then identify why your bass are not reaching their full potential.*



# Getting Reacquainted with the American Woodcock

By Anna Huckabee  
Smith, CWBÒ

Anna Smith is a Certified Wildlife Biologist® through The Wildlife Society and freelance writer from Charleston, SC.



*American woodcock specialize on earthworms which they extract with their flexible bill.*

*Credit: Wikipedia public domain*

In a nation full of turkey, quail, duck, and deer enthusiasts, there isn't much discussion of that lesser known upland gamebird, the American woodcock (*Scolopax minor*). Although the species has a wide range that extends from southeastern Canada south through the eastern and central US, it has more often found a following in the northern parts of its range than the Southeast. Perhaps hunters have forgotten the intriguing aspects of this bird which have subsequently given rise to a multitude of nicknames for the species: "timberdoodle", "night partridge", "Labrador twister", "sky dancer," "pop-eyed shot dodger", "mud bat", and "bog sucker". Watch the way in which these birds feed and court, and you will quickly figure out how these names arose.

Forerunners of the species we recognize today were present at least as far back as the Pleistocene, or so the fossil record says. Woodcock are actually members of the

sandpiper group of shorebirds. Similar species include the common snipe, dowitcher, or the occasional European woodcock that sometimes finds its way to the US. Although the American species resembles its European cousin, the two are distinctly different. American woodcocks inhabit a mix of habitats that vary with season, time of day, and activity. These birds like the floodplain habitat zone between swamps and upland hardwoods but will also utilize hardwood depressions within pines or drainages. Fallow fields are also important for nesting and male courtship display sites (singing grounds).

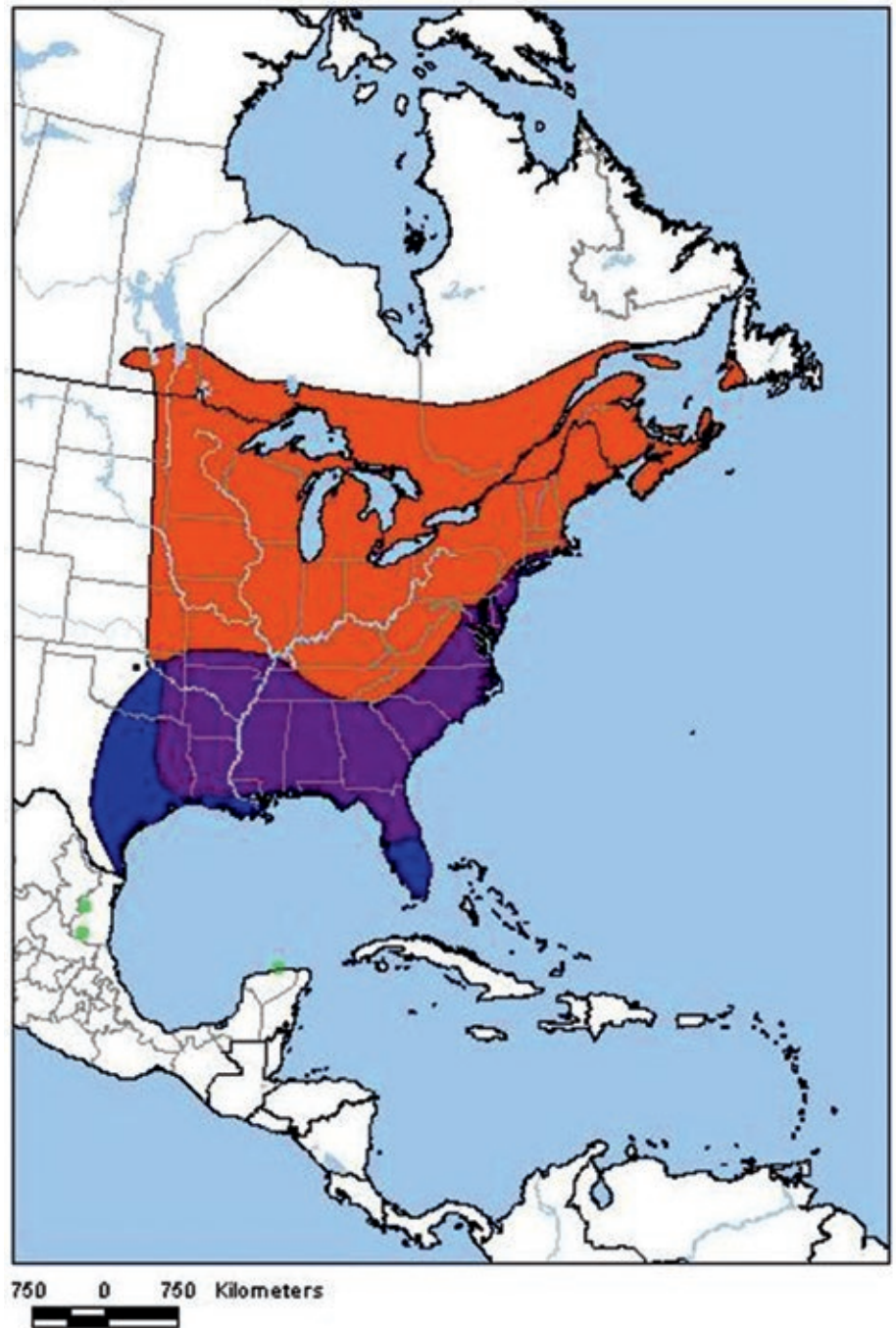
Female American woodcock are bigger than the males but neither bird is that large at 7-9 ounces and 11 inches in length. Both sexes are cryptically colored in mottled shades of brown and gray, perfect for blending with the leaf litter. The eyes are set high on the sides of the head, giving rearview binocular vision so that the bird can detect potential predators while it feeds. However, it is the bill that deserves the most attention for its unique specialization—a flexible (prehensile) upper mandible that aides the bird in feeding on nitrogen- and protein-rich earthworms, its primary food source. The woodcock walks along, probing in loam and sandy loam soils in forest clearings for the worms, leaving a trail of holes in the ground. The unique bill can bend and open underground to aid in the capture of worms. Other invertebrate prey known to be consumed by woodcock include millipedes, snails, beetles, flies, various larvae, ants, bees, wasps, and spiders while plant materials include the seeds of pigweed, wild strawberry, and others. Being an earthworm specialist (where the worms constitute over 80% of their diet), a woodcock can down about 22 in 5 minutes!

Although woodcock in the South are year-round residents, there is an influx of migrants coming from the north that adds to the population during the winter months starting in October and con-

cluding around mid-December. Their stay is very short, and birds begin moving north again to their breeding grounds in late January and are resettled by February or March. Male woodcock exhibit site fidelity and will return to their breeding and wintering territories. Winter home ranges may be 37-49 acres in size while summer home ranges average 175 acres, much larger than the female's range.

Breeding begins in the North from late

winter to April, finishing up by June as the species is typically single-brooded. In the South, breeding can begin as early as January or February, given mild weather conditions. While most bird species quietly go about the business of mating, the male woodcock puts on a nightly vocal and aerial courtship display that is fascinating and bizarre. Termed "sky dancing" by some, the male makes his way to his favorite display grounds in an opening (usually around 3 acres or



*American Woodcock range map (red = breeding resident, blue = non-breeding resident, purple = permanent resident) Credit: NatureServe*





*A timber cut to improve woodcock habitat. Credit: USFWS*

more in size). For up to 45 minutes, the male spirals high up into the air while making chirping calls and then immediately dives back down to the ground with a zig-zag motion. On this descent, the wings catch air and make a twittering sound. A non-vocal sound of this nature is called a “wing-word” and can also be observed in the mourning dove as its wings whistle in flight. The female woodcock is drawn to the males’ performances which are performed at dawn, dusk, or throughout the night, especially when there is a full moon. Woodcock exhibit a polygynous mating system—one male, many females.

The female situates her nest near (usually ~3 ft. or less) from the base of

a woody plant or tree; the nest consists of a shallow depression in the leaf litter that may or may not be embellished with other plant materials. An average of 4 grayish-orange speckled eggs are laid in the nest and are incubated by the female. The precocial young hatch after 21 days and follow the female in search of food. Mother woodcock feed their chicks, especially during the first week, and continues to tend them for up to a month. At around day 15, the young can fly and are fully independent by 31-38 days old. The average life expectancy for a wild American woodcock is around 8 years.

Of course, none of the “sky dancing” or nesting can occur if the habitat isn’t

right. It is not so much the overstory composition as its structure that determines whether woodcock will utilize an area. In northern climes, alder, birch, aspen, apple, hawthorn, dogwood, and crabapple often create appropriate thickets; while in southern parts of their range, woodcock utilize swamp privet, holly, switchcane, grapevine, trumpet creeper, honeysuckle, greenbrier, peppervine, spicebush, viburnums, wax myrtle, and the associated hardwood species typical of alluvial floodplains.

A mosaic of habitat types in a certain configuration must be present across the landscape for woodcock, an edge species, to use at different times. In the spring, males seek out openings within young forests, old fields, powerline right-of-ways, and woods roads in order to perform their courtship displays. Additionally, daytime cover should be located no more than 590 feet away and consists of young forests (hardwood stands less than 20 years old) with thickets and moist soils for feeding on earthworms. Females will need nest sites situated not more than 295 feet from the display grounds and also near or intermixed with feeding sites. Cutovers are often utilized for this purpose as well. Summer and fall nocturnal roosts are typically in 3-5 acre shrubby fields (like blueberry fields), brushy pinelands, and recently logged woods within a half mile of feeding grounds. Here they sit on the ground so that they are hidden by shrubs and briars and thus overhead predators. Their 360° viewing capabilities help them watch for ground predators. In winter, fallow fields are utilized as refugia as long as they are located within at least 755 feet of bottomland hardwoods.

Landowners can create appropriate habitat for the woodcock if they manage areas in the right configuration previously described. After all, young, moist forests interspersed with shrubby agricultural fields describe most scenarios already in existence for other game species. This same variety of habitats will





*A well-camouflaged woodcock female sits tight on her nest. Credit: Wikipedia public domain*

benefit turkeys, quail, golden-winged warblers, brown thrashers, whip-poor-wills, bog turtles, wood turtles, bobcats, and cottontail rabbits. In areas lacking appropriate habitat requirements, the following suggestions may help. Forest openings of 5-14 acres in size can be created when logging operations are conducted. In addition, 100 foot wide strips (or thin rows) can be created for woodcock usage. Fallow fields can be kept at an early successional stage, knocking them back every 5-10 years with mowing, disking, herbicide applications, and/or prescribed fire. Sometimes nature makes opening for you with windstorms and beaver damage. All Streamside Management Zones should be maintained and bottomlands protected from habitat alteration.

Although the range of the American woodcock may be expanding northward and westward, they are nevertheless in decline. Some states already list them as priority species within their State Wildlife Action Plan. The species is still considered “apparently secure” over most of its range according to



*An average size brood of American woodcock. Credit: Earl Johnson, Facebook public domain*





*Probe holes where a woodcock has been feeding. Credit: Public blog*

NatureServe and the IUCN (ranked G5, “least concern”). Louisiana is the only state to rank the woodcock as “critically imperiled” (S1). States along the west-ern edge of the species’ range often rank the woodcock as “vulnerable”

(S3). Threats include the draining of swamps and bottomland hardwoods; a maturing of young forest into older (>30 years), less suitable stands; conver-sion to agriculture and its associated pesticides; conversion to pine monocul-

tures; communication tower and win-dow strikes while migrating at low alti-tudes at night; acid deposition which changes the soil pH and therefore the earthworm abundance; the bioaccumu-lation of mercury and PCBs; and lead shot poisoning. Hunting does not appear to be a factor in the species’ decline.

The Breeding Bird Survey (BBS), conducted every year, as well as Singing Ground Surveys have docu-mented a 1-2% annual decline for the last 30 years. The current population of singing males is estimated to be 2,244,088 individuals. This represents a loss of over 829,000 singing males since the 1970s. The bird is hard to detect during the BBS, and therefore an index of relative abundance is hard to come by. Christmas Bird Count (CBC) data is being collected to document trends in populations. The US Fish and Wildlife Service (USFWS) also con-ducts Singing Ground Surveys in the northern and central portions of the woodcock’s breeding range, while band recovery data continues to assist the



## Specializing in Quality Grown Container and Bareroot Trees.

### Pears

Gallaway  
Phoenix  
Senator Clark  
TS Hardy  
Author Ledbetter  
John Ledbetter  
Dixie Delight  
Orient  
McKelvey  
Gate  
Ms. Laneene

### Apples

Brogden  
Anna  
Royal Limbertwig  
Autumn Rush  
Gibson Gold  
Eufaula Horse  
Arkansas Black  
Yates  
Carter’s Blue  
Cauley  
Kinnard’s Choice  
Dula’s Beauty  
Little Benny  
Black Ben Davis  
Black Limbertwig  
Shell of Alabama  
Striped Ben Davis

### Crabapples

Callaway  
Transcendent  
Lincoln  
Dolgo  
Dozier

### Other Plants

Chestnuts  
Chinese Chinquapins  
Allegheny Chinquapins  
Oak Trees  
Japanese Persimmon  
Blackberries  
Figs  
Plums  
Honeysuckle  
Blueberries  
Dwarf Chinkapin Oak  
Golden Kiwi

### Supplies

Plantra Jump Start Tubes  
Fiberglass Stakes

See Us on Facebook !!



### The Wildlife Group

2858 County Road 53

Tuskegee, AL 36083

800-221-9703

[www.wildlifegroup.com](http://www.wildlifegroup.com)

email [Allen@wildlifegroup.com](mailto:Allen@wildlifegroup.com)

*Place orders early to  
insure availability!*



**Improving Wildlife Habitat One Tree at a Time!**



Service and state wildlife agency personnel with tracking migration patterns. In addition, wings are often collected from hunters to assess age and sex based on plumage characteristics. These allow the calculation of a recruitment index, or how many young are making it to independence. It also allows wildlife agencies to track the harvest over a wide geographic distribution.

Sexing and aging woodcock involves studying the wing feathers. Wing chord measurements on the primaries (wing-tip) feathers 1 through 3 can reveal the sex of the bird:  $\leq 12.4$  mm is a male and  $\geq 12.6$  mm is a female. Feathers 15-18 (at the base of the wing) are used for aging birds. Juveniles have the mottling pattern on both sides of the feather whereas the adult is asymmetrical in this regard. There is also a light-colored terminal band in juveniles that separates the tip from the mottled pattern below. In adults, this band is not distinct. Where it gets difficult is when juvenile feathers are retained in adulthood or when the primaries have been shed and are in the process of emerging. The Michigan Department of Natural Resources has a good diagram to explain the sexing and aging process (see references section).

Since the American woodcock is a species of conservation concern, the Woodcock Task Force was formed by the Association of Fish and Wildlife Agencies (AFWA) to determine a course of action for the species. They documented the loss of habitat and set population goals. To return to bird densities of the 1970s, it was determined that 20.8 million acres of new woodcock habitat would need to be created. Two management sections were created for the (1) eastern and (2) central populations. To accomplish Plan goals, 500-1,000 acre management units would need to be created to support approximately 500 birds. If these units were then situated within a mile or two of each other, an interchange of birds could occur across the landscape. It is

hoped that with landowner assistance with implementing the Best Management Practices of the Plan, woodcock may once again rebound and become a popular gamebird. After all, to lose such an interesting and culturally important species would be a shame.

## LITERATURE REFERENCED

American Bird Conservancy. 2012. *Bird of the Week, March 16, 2012: American Woodcock*. ([www.abcbirds.org/newsandreports](http://www.abcbirds.org/newsandreports)).

Kelley, J., S. Williamson, T. R. Cooper (eds.). 2008. *American Woodcock Conservation Plan*. Wildlife Management Institute. 159 pp.

Keppie, D. M. and R. M. Whiting, Jr. 1994.

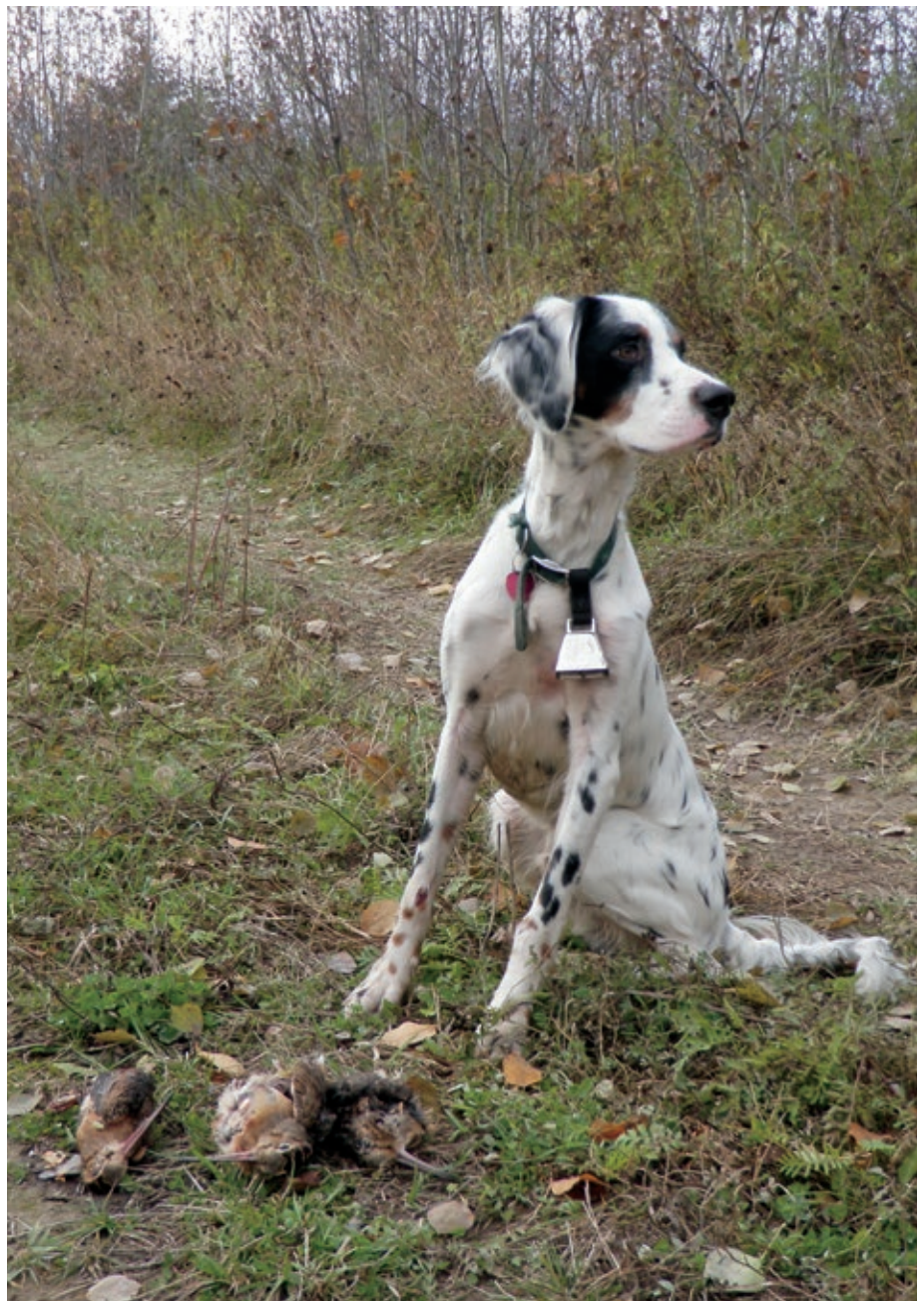
American Woodcock. In *The Birds of North America*, No. 100. 28 pp.

Michigan Department of Natural Resources. 2013. [http://www.michigan.gov/dnr/0,4570,7-153-10363\\_10958\\_10961-68789--,00.html](http://www.michigan.gov/dnr/0,4570,7-153-10363_10958_10961-68789--,00.html).

NatureServe. 2013. *NatureServe Explorer: An online encyclopedia of life* [web application]. Version 7.1. NatureServe, Arlington, Virginia. Available at <http://www.natureserve.org/explorer>. (Accessed: May 28, 2013).

South Carolina Department of Natural Resources. 2005. *American Woodcock*. In *South Carolina's Comprehensive Wildlife Conservation Plan, Supplemental Volume: Priority Species and Habitats*.

Timberdoodle.org. 2013.



*A good day of woodcock hunting. Credit: Jim Berdeen*



# Wildlife Trends Journal Management Calendar

By Dave Edwards

August/September 2013

Dave Edwards is a certified wildlife biologist and regular contributor to *Wildlife Trends Journal* and other hunting/wildlife publications. Dave was honored as QDMA's 2007 Deer Manager of the Year and nominated in 2011 as Alabama Wildlife Federation's Wildlife Conservationist of the Year. Dave is General Manager for Cabin Bluff Lodge and President of Tall Tines Wildlife & Hunting Consultants, Inc. Contact him at [Dave.Edwards@CabinBluff.com](mailto:Dave.Edwards@CabinBluff.com) or 912-464-9328.

*Trail cameras may be the most valuable deer management tool developed in the past ten years. Late summer or early fall is the best time to use them to assess deer populations and make buck harvest decisions.*

Late summer/early fall is a busy time of year around a hunting property. To ensure a successful hunting season, there are many land and hunting management projects that take place this time of year. Because all properties are different, with various management goals and hunting activities, it is impossible to cover all activities/projects that need to happen during this time of year on any one property. However, I hope the August/September Management

Calendar has useful information in it that will help you better manage your property and improve hunting experiences this fall.

## **Attend wildlife management seminars.**

Most landowners and land managers are always seeking more information that will help them best manage their property. In fact, the reason you are probably reading *Wildlife Trends* is to

learn more about wildlife and land management. The more you understand the how's and why's of wildlife/wildlife habitat management, the better you will be at managing your property. There are several wildlife management oriented seminars or short-courses that take place during late summer and early fall. These events provide opportunities to speak with foresters, wildlife and fisheries biologists as well as other landowners. A good resource for education-

al events is land grant universities that have Cooperative Extension Services, state forestry commissions, landowner associations, or other organizations dedicated to the management of specific species such as Quality Deer Management Association, Ducks Unlimited, etc.

### **Prepare skinning shed for deer data collection**

Deer season is right around the corner. Collecting information from deer harvested on your property can provide valuable insight to the status of your herd, the progress of your management strategies and assist in making harvest decisions that will improve the deer herd and ultimately the hunting. Making sure your skinning shed is fully stocked and ready should be an annual pre-season activity. At a minimum you should be collecting age (jawbone), weight, antler measurements and reproductive data. Supplies needed include a

jawbone extraction tool, pruning loppers, wire basket to air-dry/store jawbones, sharp knives, permanent markers, pencils, weight scale, gambrel/rope for hanging deer, flexible measuring tape, instructions on how to collect and store harvest data (recommended if more than one person will be collecting the data), and harvest data sheets to record the information collected. General preparations may include sharpening and lubricating pruning loppers, calibrating weight scales, inspecting and/or replacing rope or cables used to hang deer, ensuring water source is working properly, and stocking/organizing the data collection area. The Quality Deer Management Association (QDMA) or Forestry Suppliers are great places to purchase supplies to collect harvest data including harvest data sheets. Collecting and analyzing harvest data is often the backbone to the success of a deer management program.

### **Service tractors, ATV's, and other mechanical tools.**

Because early fall is a busy period for equipment use such as tractors, ATV's, and chainsaws, now is a great time to perform routine maintenance or service. I recommend developing a maintenance sheet that includes all your equipment and keeping records of service. This will ensure that equipment is taken care of and will be in good working order for the fall activities such as food plot planting and preparing your property for hunting season. Don't forget about tractor implements such as grain drills, mowers, or harrows. We even keep a maintenance sheet for small tools like weed eaters and pressure washers. I have learned that preventative maintenance (maintenance done before something breaks) saves lots of time and money.

### **Mow access lanes through quail hunting areas.**

Generally speaking, areas that are



*Attending land and wildlife seminars and field days is a great way to pick up new ideas on how to better manage your property*



being managed for quail hunting are disturbed regularly by fire, disking, and/or applications of herbicide to control undesirable vegetation to promote quality quail habitat. Consequently, the understory habitat in these areas seldom grows taller than three feet. However, even with such low growing vegetation, navigating and hunting these areas with bird dogs and other hunters (particularly kids) can be challenging due to the relatively thick nature of this vegetation. While prescribed fire, disking, and herbicide applications are best suited for creating quail habitat, mowing can be used to increase the huntability of the habitat. That is, mowing access trails through quail habitat will allow easier access for hunting. How and where you mow trails is a personal preference. Some people like straight line/checkerboard mowing which results in a systematic appearance and is easier for hunters to figure out where other mowed lanes are while working dogs.

While it depends on the situation, I prefer randomly mowed lanes that wind through the habitat. This strategy results in a more natural look. Regardless of the method you use, mowing these trails just before the growing season ends (late summer) will allow the vegetation to grow a little before hunting season/dormant season arrives. I generally try to time this mowing when I feel there are 2-3 weeks left of growing season. The result will be trails that are easily walked but do not appear as though they were just mowed providing a more natural/aesthetic look within the quail hunting areas.

#### **Manage dove fields in preparation for the upcoming season.**

Unless you hunt deer in August in South Carolina, dove season is often the first hunt of the year. Dove field planting activities are normally dictated by the time it takes for the specific crop you plant to mature. Common dove

field crops include dove proso millet, browntop millet, Japanese millet, sunflowers, grain sorghum, corn, and wheat - all of which have different seed maturing periods. The goal is to have mature seed available for dove a few weeks before the season starts to allow them time to find and begin using the field. If all goes well, most dove fields are nearly mature by mid-August. As the season approaches, here are a few techniques I have used to increase dove use of the field before a planned hunt:

Maintain a clean disked strip or two through the field of bare ground. These are strips that you do not plant, rather simply keep plowed through the summer and into dove season. Dove find these bare dirt areas attractive because it is easy to walk in, exposes seeds, grit, and offers dusting areas. Disked strips offer access to seed from your plantings once they mature as well.

If the field has a water hole or pond, make sure dove have access to it. In

## Give *Wildlife Trends* as a Gift this Year

Why not give your friends and family the gift of wildlife education by giving them a subscription to *Wildlife Trends*?

Call us at 800-441-6826 to order and we will include a gift card announcing your gift.

This is the perfect gift for the person who has everything!





*A mid-rotation application of herbicide can result in exceptional wildlife habitat in pine stands*

some cases, this means either mowing or burning the vegetation along a section of the shore will be needed.

Once the crop is mature begin periodic strip mowing or sectional burning to allow access and expose seed to dove. I prefer burning if it is possible because it completely cleans the ground allowing better access for dove and exposes more seed. Only a few strips are needed at any one time. The goal is to only mow/expose enough seed for dove to use for a week or so. Add another strip or burn another section as dove need it. This method will prolong the life of your dove field by providing seed to dove over several weeks or months.

### **Start preparations for fall food plots.**

It is difficult, if not impossible, to establish successful food plots without planning and adequate soil preparation. Planting quality food plots is a process

that may span over several months, not a weekend. There are several factors that influence the success of a food plot program. Among the most important are establishing a well thought out food plot plan, ensuring proper soil fertility and pH, preparing a firm, smooth seed bed, only planting under favorable conditions, and controlling weeds. Each of these activities plays an important role in the success of your food plots. Here are a few tips on planting this fall:

Test soil early and apply required lime (preferably at least 6 months prior to planting). It takes time for the chemical process to take place and effectively change the soil pH. If you didn't lime in spring or early summer, go ahead and apply it now...better late than never.

Use the results of the soil test to create the best fertilizer blend for your specific soil needs. Many people use balanced fertilizers such as 13-13-13

because they are easy. However, it is well worth your time to custom blend fertilizer to match your needs versus applying a balanced fertilizer that often requires applying extremely high amounts of some nutrients to compensate for the lack of others in the soil – which results in wasted fertilizer/ wasted money.

Order seed and fertilizer as early as possible to ensure it is ready when you are.

Ensure plots are relatively smooth. This takes time and should be done well ahead of planting dates. If you are broadcast planting, simply drag the field just before planting to provide good seed-soil contact. Once broadcasted, cultipack the field to “mash” the seed into the soil (if you've never seen or used a cultipacker, check them out. In my opinion it is a “must have” implement that has many applications in food plot planting). Do NOT drag food plots if they are somewhat



unsmooth or if you planted small seed such as clover. Dragging will result in burying seed too deep.

Have your seed beds ready, but don't fall into the trap of planting too early. September is often a very dry month. Mid-October is ideal in most areas of the Southeast. This is when we start getting regular cold fronts that bring rain. Planting too early normally results in disease (mostly army worms), poor planting success due to droughty conditions, or if you receive adequate rain the food plot is knee high and less attractive to deer by the time gun season arrives.

Adding annual reseeding clovers such as crimson or arrowleaf into your fall plantings will increase the quality, nutritional value, and longevity of your food plots. With proper management, these clovers will regenerate again next fall which will save you money on seed costs.

Use exclusion cages to monitor deer use and plot performance. An exclusion cage is a small "tube" of fence staked to the plot that prevents deer from eating the crop within the exclusion cage which allows you to assess plot growth and deer use of the plot. Cages are normally 2-3' foot in diameter and 3-4' tall. I've seen many food plots where the manager thought the crop did not do well, where in fact it did but deer simply mowed it down and never gave it a chance to grow.

### **Manage mid-rotation pine stands with herbicides to improve food and cover for wildlife.**

---

Although thinning timber can improve wildlife habitat by promoting development of food and bedding/escape cover, the responding vegetation often includes species such as sweetgum, waxmyrtle, gallberry, etc. that shade out and reduce desirable forage plants/vegetation over time. An effective technique to control undesirable hardwood competition, and promote quality deer foods, is through the use of

herbicides such as imazapyr (Arsenal™). An application of imazapyr will minimize hardwood competition and promote development of higher quality wildlife food and bedding/escape cover within treated areas. While you can apply this herbicide throughout the growing season, it is most effective if applied from late summer until leaf drop in the fall. Furthermore, research has shown that one treatment of imazapyr can significantly increase growth and production of the remaining pine trees by final harvest, hence, generating a return far outweighing the cost of the treatment. Treating entire stands may be most practical from a timber production standpoint, but is not necessary from a wildlife perspective. For example, in a thinned pine plantation, simply applying herbicides via skidder/tractor down select thinned rows into the adjacent pine rows can significantly increase the quality and quantity of deer browse and ultimately raise the nutritional carrying capacity of the area. Once pine stands are treated, a prescribed burning rotation should be established thereafter. This technique is often referred to as a "mid-rotation" release. It is reducing hardwood competition and 'releasing' the pines for better growth. I often use this strategy (herbicide followed by fire) to create natural food plots within middle aged pine plantations. These areas create exceptional hunting opportunities for deer and turkey.

### **Condition and train hunting dogs.**

---

Each September thousands of hunters and their dogs go afield and begin their hunting season. In many parts of the United States, particularly in the Southeast, September is the opening month for dove and early teal season, with shooting preserve quail season starting in October in many areas. In the Southeast, where temperatures in the nineties are not uncommon, all hunting dog owners need to condition

their four legged friends beforehand and be familiar with the dangers a working dog can face in these conditions.

Many professional gun dog trainers recommend a warm weather training regimen of an hour in the morning and another in the evening. Run your dog and work on retrieving drills, building slowly as you go. Just as when you are starting a fitness program, workouts should start out slow and easy. Make the workouts fun and if needed take frequent rest and water breaks. As in any training process you want to increase the duration gradually as the dog increases his endurance and becomes accustomed to the heat.

The onset of heat related problems can be quite subtle, so it is important to keep a watchful eye on your dog while training or hunting in warm weather. The different types of common heat-related problems that may be encountered while training and hunting are: Heat stress, Heat exhaustion and Heat stroke. If your dog is not performing at his normal level, slow in reacting to your commands, panting, or simply lays down and does not want to get up, get him out of the sun and into a shaded area, allow him to rest and give him water in small quantities frequently. If there is a waterhole nearby, encourage the dog to get in it to cool his/her body temperature. We often provide our dogs with Gatorade or Pedialyte which helps replace electrolytes – similar to a drained athlete.

### **If you have existing perennial clover plots, mow and fertilize them in early fall.**

---

Perennial clover generally looks its worst in late summer. It has gone through the heat and often very dry periods of summer. However, as fall approaches with cooler temperatures, the clover should start recovering from the stress associated with heat and drought. Mowing and fertilizing your clover plots after a couple of fall rains

will give it a boost and will ensure good growth through the fall. Do NOT mow the clover too low. Just above the clover plants is good (clipping the flowers and other weeds). Also, do not use a fertilizer with nitrogen. Clover makes its own nitrogen. Adding nitrogen will only feed undesirable weeds. If needed, you can broadcast additional clover seed in areas that are not doing well.

### **Check and lubricate gates & locks**

---

Servicing gates and locks are often overlooked, but is something that needs to be done at least annually. Unattended or poorly working gates can pose unnecessary safety hazards. The first order of business when servicing a gate, particularly one that is not used often, is to inspect for and eradicate wasps and their nests. Nothing can put a damper on a day in the woods like getting stung by a wasp at the gate! Next ensure the gate functions properly. Is it easily opened and swings level? Are the hinges in good working order? Make notes of parts needed to make repairs if you do not have them handy. To reduce the chances of running into a “no-shoulders” (snake), ensure the gate is free of tall weeds and vines by weedeating or using herbicide (recommended). Lastly, inspect and oil the lock, locking mechanism, and hinges of the gate.

### **Check, repair and prepare deer stands for hunting season**

---

While the best time of year to relocate or place new deer stands on your property is in late winter after the deer season has ended or very early spring (before green up), late summer or early fall is when you need to revisit these stands to tighten them back up, inspect for loose nuts/bolts, rotten or loose wood, or any other safety hazards. This is also a good time to check the shooting rails, padding, replace pull up ropes, and trim shooting lanes where needed in preparation for hunting season. However, do not over do the shooting

lanes. Small openings are all that is normally needed to identify and shoot deer. Because we have so many deer stands on the property I hunt, we have started using flagging as a way of ensuring each stand is safe. That is, once a stand is checked, tightened, etc, we simply tie a piece of colored flagging on the base of the stand or the ladder. We use a different color each year. For example, this year we are using yellow flagging. So if you get to a stand this fall that does not have a piece of yellow flagging on it, you know that it has not been through “final inspection” this year and to use caution if you use it.

### **Mow under and around fruit trees and orchards.**

---

Mowing around fruit trees will not only enhance the growth of the trees by reducing competition for resources by surrounding plants, but will enhance the aesthetics of your property. Mowing will also help “clean” the understory around the fruit trees so wildlife can find the fruit as it drops in the fall (acorns, persimmons, apples, etc). As fruit or nuts begin to fall, these areas provide great places to hang a trail camera to get pictures of wildlife using the trees and/or a great place to hang a deer stand!

### **Limb roads**

---

Because the growing season is essentially over, early fall is a great time to trim over-hanging limbs from your property’s interior roadways. Interior or secondary roads can become a jungle in just one growing season if not maintained. Have you ever ripped the exhaust pipe off your tractor with an over-hanging limb, or had a limb slap you across the face while driving a golf cart down an overgrown road? Trimming limbs will help prevent equipment damage and/or personal injuries while using these roads. Removing these limbs will also help these roads dry out quicker by allowing sunlight and wind exposure on the road

and in some cases will enhance natural wildlife foods along the roadsides due to the added sunlight.

### **Develop a pre-season deer harvest plan that will maintain or improve your deer management program.**

---

Monitoring the status of your deer herd is the backbone to the success of your deer program. Hopefully you have been collecting harvest data (weights, measurements, ages, etc), hunter observation data, as well as conducting camera surveys. Collectively, this information is used to make sound deer management decisions that will help you achieve the goals of your program. If you haven’t already done so, ask a wildlife biologist to review your data or information and provide harvest recommendations before hunting season starts. Using trail cameras is a great way to assess buck quality and make buck harvest decisions before you head to the woods. Pictures from trail cameras will help reduce “mistakes” when judging bucks in the woods while hunting (where judgments are often made in seconds while your heart is racing 200 beats per minute!) While trail cameras are useful, a true camera survey is the most accurate method available to assess the status of your deer herd. September and October are normally the best months to conduct a camera survey (after bucks shed velvet but before the majority of acorns start to drop). If you plan to conduct a survey this fall, be sure to plan ahead. If you are doing it yourself, begin gathering all the equipment and supplies needed (cameras, batteries, digital cards, film, corn, etc). If you plan to hire a professional, get on their schedule early. With the popularity of camera surveys, most wildlife consulting companies are booked well in advance of camera survey season (September – November).



# Wildlife Trends Journal

## Pond Management Calendar

By Scott Brown,  
Southern Sportsman  
Aquatics and Land  
Management

August/September 2013



*This young man is all smiles with his catch from the small pond. Although that one went back, many others he caught from 12-14 inches were kept for a fish fry.*

### **Enjoy your Property**

We see many landowners expending lots of time and money into their property, but never enjoying it. First thing in the morning or last hour of the day fish for bass, catfish or bream with light tackle. Arrange for kids, family, friends or neighbors to fish and remove some of the largemouth bass that are annually required in your lake management strategy. Organize a fish fry with local conservation organization chapters

such as National Wild Turkey Federation, Quality Deer Management Association, Ducks Unlimited, etc. or invite local law enforcement to thank them for their hard work throughout the year in your county.

### **Herbicides Should Be Used Sparingly**

Only spot treat extreme problem vegetation in and around your waterbody. During summer, if large areas of vege-

tation (emergent or submerging) are treated, decomposing plants can cause dissolved oxygen levels to drop that can stress fish or cause a fish kill. If a large area must be treated, treat approximately one third each time over a three week period. Do not do the third all at one end or in a cove. Spray, skip an area twice as large as you sprayed, then spray and skip another area twice as big as the area sprayed, and so on. This will spread out the dying and dead veg-



etation over the whole lake as opposed to it all being at one end. Never add dye the first time once an algae bloom is present or heavy submerged plant growth is established during the summer. This again will overload the system with nutrients and can cause fish stress or a kill. Knowing the reaction from your actions is absolutely necessary to prevent negative issues in your waterbody and possible effects downstream.

### **Continue Fertilization Program**

Continue to check visibility and only fertilize if it is greater than 30 inches. Once you begin a fertilization program in the spring you must continue until the growing season ends. If stopped prematurely, submerged vegetation growth can be accelerated during a time when treating large amounts of submerged vegetation is not advised.

### **Continue Feeding, Adjust Accordingly**

Continue feeding, but check water temperatures. If your water temperature is above 90° F a couple feet below the surface, reduce feeding to twice per day, once at dawn and at dusk when fish are most active. If water temperatures have remained below 90, continue feeding four times per day, twice in early morning and twice in late afternoon. Set feeding duration time so all feed is consumed in approximately 15 minutes to reduce waste and not create water quality issues by over-feeding.

### **Add Structure Offshore and Along Banks**

Installing fish attractors into an existing pond is best done in the summer when you can get wet and enjoy it, rather than in the winter when air and water temperatures are cold. Both natural and

*Summer weed treatment in small ponds should be sparse. Areas like docks and swimming areas can be treated to keep them weed free and usable throughout the summer.*







### We Know Natives

With over 200 species of native grasses, native wildflowers and wetland plants, our high quality standards are changing the native seed industry.

Whether your land management goals are for wildlife, pollinators, soil conservation, or aesthetics, we would be happy to help you with

your native seed, plugs, seed establishment, and maintenance requirements today!

Visit us at [www.roundstoneseed.com](http://www.roundstoneseed.com) or

Call toll free at [1-888-531-2353](tel:1-888-531-2353).



artificial materials can be used along shore and as off-shore fish attractors. Artificial attractors can be built in front of fans where it's cool, then hauled to the lake for dispersal. Natural materials can be gathered from upland wildlife management practices. If you already have attractors, maybe refurbishing natural ones or enlarging existing artificial ones will help. Do not place attractors where they will interfere with other activities such as swimming or boating. Keep away from docks that may be used as diving platforms, or make sure they are far enough underwater to not be hit by boats or jet skis.

### Build a Dock

There's no cooler place in summer than in the water. Place your dock in a location where a feeder can be placed on one corner in deep water fairly close to cover so fish can come out to eat and head back to their hiding areas. Docks do not have to be elaborate, but functional. Always use quality pressure treated lumber and galvanized hardware so it will last and require repairs later than sooner.

### Organize Fall Lake Work

If any fish need to be stocked in the fall, make arrangements and reserve fish now so you do not miss out. No fish should be hauled any distance during



**Southern  
Sportsman  
Aquatics & Land  
Management**

**"Creating quality fish & wildlife habitat from Texas to Florida"**

**Texas: Scott Brown, Owner**  
(214) 383-3223

**Florida: Steve Lopez**  
(904) 484-6773

**We are a full service lake and land management company with almost 50 years combined experience researching and managing natural resources throughout the southeast. We offer high quality service and proven products to help you achieve your fish and wildlife management goals.**

**Visit us on the Web:**  
[southernsportsmanaquaticsandland.com](http://southernsportsmanaquaticsandland.com)





*When installing a dock, PLAN IT OUT and SURVEY THE AREA! This very nice dock was placed in the shallowest part of the lake and has silted in and become useless. The problem vegetation constantly needs treating and until the landowner dredges a path to the main body of the lake and all around it no fishing, swimming or boating will take place from this location.*



*These attractors were built in a barn in front of fans and delivered to the site for dispersal on a warm, muggy summer Georgia day.*





Wildlife Habitat Management  
Prescribed Burning  
Forestry Site Work  
Equipment Services

Brannen Willis  
PromiseHabitatServices.com  
352.408.1193  
39711 Crest Haven Ct.  
Umatilla, FL 32784

summer months. Water temperatures can rise quickly in the hauling tank and the destination water can be as much as 20 degrees warmer than the hauling water, which can contribute to a low survival rate. Fall stocking of most species can be very successful, and some species are better stocked in the fall over spring, as their spawning time may be shortly after stocking and you receive even more fish than you paid for. Fall fish of some species are slightly larger, but do cost a little more.

Spring and fall are the best times to conduct electro-fishing surveys, but some companies become booked as the season approaches. Organizing your fall sampling now alleviates being left out and having to wait six months to see how your fishery looks.

Order any herbicides in advance of large fall aquatic vegetation treatments being conducted by you or a professional. Small amounts of unused herbicide can be stored without damage to active ingredients over the winter and used the following year.

# RootTrapper®

*The patented, bi-layer, white, soft-sided RootTrapper® traps root tips to create fibrous root systems customers expect, while providing cooler temperatures without excessive water loss.*

*Creates more active root tips than any other container system.*



*Equipped for transplant success!*

*The Original Root-Pruning Container System.®*



**RootMaker®** Products Co., LLC  
1-800-824-3941 [www.rootmaker.com](http://www.rootmaker.com)





Prime hunting land. A quiet cabin on the river. A place where you can invest in your future. Whatever your dream, we can make it happen, with a loan package customized by professionals who understand rural land and rural lending.

When you find the land, call the South's land and farm lending experts. Call First South Farm Credit.

THIS DREAM  
FINANCED BY



First South  
Farm Credit

*Financing land, farms and dreams.*

firstsouthland.com  
800-955-1722





101 MARKET PLACE, SUITE 500  
MONTGOMERY, ALABAMA 36117

Presorted Standard  
U.S. Postage  
PAID  
Auburn, AL  
Permit No. 78



BECAUSE

# The Season

NEVER ENDS.

**Wildlife Consulting • Hunting Lease Management • Recreational Property Development**



Great hunting doesn't happen by accident. It is the result of strategic planning and proper management of wildlife populations and their habitats. Since 1951, Westervelt Wildlife Services has been committed to helping our clients optimize the wildlife and recreational value of their property and reach their land management goals.

Whether you need help tuning up your deer herd, enhancing wildlife habitats, developing your land into a dream recreational property, or someone to manage your hunting lease program, we are ready to put our talented staff of biologists and experience to work for you.



800.281.7991 • [www.westerveltwildlife.com](http://www.westerveltwildlife.com)